PATHWAYS TO SUSTAINABILTY: ENABLING AN INCLUSIVE CIRCULAR ECONOMY FOR NEWFOUNDLAND & LABRADOR

CIRCULAR ECONOMY WORKSHOP

APRIL 24, 2025, St. John's, Newfoundland & Labrador, Canada



REPORT

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EXECUTIVE SUMMARY

This report synthesizes the discussions and deliberations of the Pathways to Sustainability Workshop held on April 24, 2025, at the Emera Innovation Exchange in St. John's. This workshop was an important part of a multi-disciplinary research project being undertaken by researchers from Memorial University of Newfoundland, McMaster University, and Trent University. The research team invited industry leaders, policymakers, academics, and community representatives from across Newfoundland and Labrador (NL) to collectively engage and explore actionable solutions on how can transition from a linear to a circular economy (CE)- a sustainability model that embraces an environment-first socio-economic principles model that emphasizes waste minimization, and promotes reuse and regeneration through proactive redesign.

Despite increasing recognition and enthusiasm for integrating circular economy (CE) principles, NL remains one of Canada's weakest performers in diverting waste from landfills. The province continues to face systemic barriers, including inadequate waste management infrastructure, limited public participation, and fragmented policy frameworks. The unique demographics and needs of northern, rural and remote communities (NRRC)s and workforce in NL require customized approaches for successful implementation of CE. The workshop aimed to bring all stakeholders together to build awareness of the various initiatives that are ongoing in the province and provide an opportunity for collaborative cross-sectoral network creation for an inclusive circularity in NL. The workshop was designed to seek input from participants across supply chains in key focus areas of circularity including identifying barriers to CE in NL, success and sustainability of small and medium enterprises (SME)s, Extended Producer Responsibility (EPR) and workforce skilling/reskilling. Directives for industry incentives and policy were also discussed during three focus group discussions moderated by subject matter experts from industry and academia with more than 40 participants.

Workshop participants underscored that advancing CE adoption requires coordinated action across three interconnected domains: public policy, community engagement, and business innovation. A successful circular transition will depend on aligning these interfaces through integrated governance, cross-sector collaboration, and inclusive stakeholder participation.

More specifically, key observations revealed several systemic barriers: limited funding for SMEs to adopt circular models; weak regulatory enforcement on product design, durability, and repairability; and insufficient local infrastructure for recycling and materials recovery- especially in remote and Indigenous communities. Moreover, there is a lack of public education, transparency in industry waste reporting, and coordination across government levels.

To address these gaps, participants proposed actionable steps with policy and governance implications: (i) establish a provincial Circular Economy Council to coordinate policy, oversee implementation, and reduce fragmentation; (ii) mandate EPR regulations for durable, repairable, and recyclable product designs; (iii) develop provincial databases and council to monitor company performance, waste flows, and stakeholder networks; (iv) support micro-recycling hubs and community circular centers in remote and Indigenous regions; (v) expand education and capacity-building programs across sectors, including CE mentorship

and proposal-writing workshops; and (vi) introduce financial incentives and grants that reward sustainable practices and circular business models.

An example of implementing a holistic rural circular food system in NL is presented to demonstrate the feasibility and local potential of circular solutions when community engagement and education are prioritized. NL stands at a critical inflection point: with the right combination of regulatory leadership, stakeholder collaboration, and investment in infrastructure and education, the province can position itself as a national leader in inclusive, community-driven circular economy transformation. Policymakers are urged to act swiftly to institutionalize CE governance, foster innovation ecosystems, and embed circularity into provincial economic and environmental strategies.

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BACKGROUND AND INTRODUCTION

Circularity is a regenerative approach that promotes reduce, reuse, recycling and recovery of materials throughout the supply chain (circularity)¹, contributing to a circular economy (CE),encouraging sustainable development that creates a quality environment, economic development and social equity.¹ Canada generated 1.33 billion tonnes of waste in total, and 36 tonnes of waste per capita with 20% recycling capacity.² 6 million tonnes of this waste are hazardous, 10% consisting of discarded consumer durable goods which end up in landfills. Northern and Atlantic regions of Canada consist of mostly rural, remote and Indigenous communities, that have under-established waste management infrastructure compounded by long harsh winters and inaccessible roads and facilities.¹ It also has an aging population that is spread over large distances. As shown in Figure 1, NL, like other northernmost provinces Alberta, Yukon and Northwest Territories, has one of the largest waste footprints in Canada. However, this footprint can also be attributed to the constraints from lack of waste management infrastructure, recycling facilities and circularity strategies in these northern, remote communities rather than a wasteful population demographic.

Per capita waste (kg) in Canada

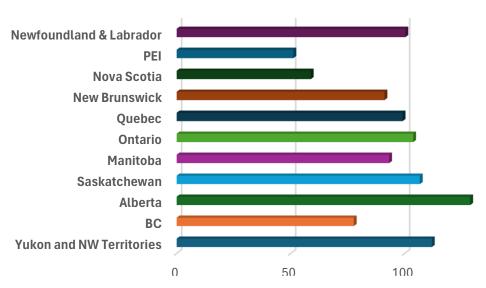


Figure 1: Waste footprint of provinces in Canada in 2024³.

Therefore, to promote circular strategies, improve resource management and infrastructure development that prevent material loss and environmental and human health hazards, a collaborative approach that brings all stakeholders from across sectors and across the supply chains together on a single platform to identify barriers and challenges and discuss actionable solutions is critical. It is also important for circular economic development that is also environmentally sustainable that the community members are engaged and effectively trained for an inclusive transition. Materials design that is inspired by community and environmental health proactively, driven by industry and producer responsibility and governed by policy is crucial for the success of an inclusive CE in NL.

Newfoundland's industry is mainly based on natural resources with energy, mining, fisheries and construction leading the industry. These industries are also hubs of waste that can be a resource for a new product value chain. Therefore, circularity provides huge opportunities for economic and community growth that is sustainable. In Newfoundland there are more than 15,000 businesses dominated by Small and Medium Enterprises (1-99 employees) concentrated in the Avalon peninsula, Gander and Corner Brook. More than 245,000 employees are part of the workforce where the Government of NL is the largest employer. Therefore to build awareness about the challenges across NL's various sectors and codevelop sustainable solutions together that benefit the majority of businesses and employees with the help of government representatives, bringing all the cross-sectoral representatives together on a single platform was essential.

As a pioneering initiative by researchers from Memorial University of Newfoundland's St. John's Campus and Grenfell Campus spanning the east and west coast of NL in collaboration with researchers from McMaster University and Trent University in Ontario, the first Circularity Symposium was held in St. John's in February 2025 (Appendix). A workshop was planned to bring all stakeholders together to learn about the challenges faced by these enterprises to develop eco-initiatives and seek input from them about key focus areas for circularity in NL, the potential for success and sustainability for SMEs, Extended Producer Responsibility (EPR) and workforce skilling/reskilling. Directives for industry incentives and policy were also discussed during three focus group discussions moderated by subject matter experts from industry and academia with more than 40 participants. Presentations highlighting the principles of circularity that go beyond recycling, the importance of a nexus between business, policy and community including academic stakeholders in developing CE strategies, the role of traditional ecological knowledge in implementing an inclusive CE and an example case study of community-driven CE in the Community of Harbour Main were presented by Dr. Shegufa Shetranjiwalla (School of Science and the Environment, Grenfell Campus, Memorial University), Dr. Devashish Pujari (DeGroote School of Business, McMaster University), Dr. Atanu Sarkar (Division of Population Health and Applied Health Sciences, Memorial University) and Dr. Nicholas Fairbridge (Memorial University, Town of Harbour Main) respectively.

The synthesis of all initiatives, concerns, barriers to circularity, recommendations and significant takeaways discussed by the participants is highlighted in this report.

SCOPE AND PURPOSE

The purpose of the first provincial Circularity Symposium held in St. John's, NL was to bring together industry (profit and non-profit) leaders, decision makers and subject matter experts from academia, municipal and provincial governments, business, community, educators and policy makers to understand gaps in communication, potential opportunities for collaboration across supply chains, explore and codevelop actionable items for waste management, infrastructure and value chain constraints, implement policy, governance and regulatory co-ordination in consultation with Indigenous and rural communities in NL.

The focus group discussions sought to seek avenues for implementing a just, inclusive, and scalable sustainable and circular economy in NL. The workshop was designed with circularity principles relevant

to NL, the agenda with its clear focus group discussion topics is provided in the Appendix. Industry experts were invited as Moderators to guide the discussions around circularity initiatives customized for NL in three focus group discussions over one full day of engagement.

PARTICIPATING STAKEHOLDERS

Figure 2 and Table 1 show the strong representation of participants from industry, academia, government and also from community members. Invited representatives from provincial sustainability champions were invited to be a part of the first NL focused circularity symposium. Selected participants from academia included both research and administrative staff members engaged in sustainability and in the promotion and facilitation of circularity initiatives at Memorial University of Newfoundland and the Harris Center. Industry and business leaders from profit and non-profit organizations in energy, industry, infrastructure, fisheries, biorefineries, upcycling and industry associations were represented.

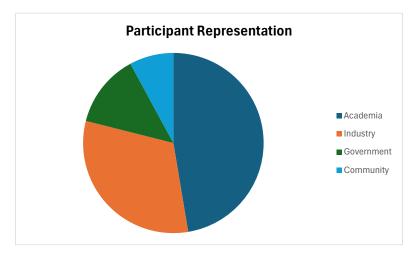


Figure 2: Workshop participant representation from different sectors in Newfoundland

Table 1: The various agencies contributing towards circular strategies in Newfoundland during the workshop.

Industry	Government	Academia	Community
		Grenfell campus	
World Energy GH2	Atlantic Canada	School of Science and	Harbour Main
	Opportunities Agency	the Environment	
	(ACOA)		
econext	Renewable Energy,	Environmental Policy	Miawpukek First
	Industry, Energy and	Institute	Nations (Conne
	Technology (IET)		River)
Greening Art	Agricultural Research,	Office of Research and	Atlantic Healthy
	Government of NL	Community Engagement	Oceans Initiative
			(AHOI)
ABO Energy	Mineral Lands Division	Transdisciplinary	
		Sustainability	

Atlantic Used Oil St. John's Campus
St. John's Campus
Sustainability and

Climate Action

NL Composting Division of Population
Co-operative Health and Applied

Health Sciences, Faculty

of Medicine

Fundamental Inc DeGroote School of

Business, McMaster

University

FOCUS AREAS

Focus group discussions were planned around main circularity drivers serving SMEs, governance and policy and the collaborative directives for improving waste management, producer responsibility, workforce skilling and training and capacity building in communities in NL.

Understanding circular economy: Awareness, communication and education

One of the main topics discussed at the focus groups was the lack of awareness of what circularity/circular economy is and the lack of communication and information sharing around how stakeholders could get involved. Many businesses, non-governmental organizations (NGO) and entrepreneurs are engaged in activities related to a circularity but do not define them as such. There is also a dearth of a common repository for circularity solution providers. The province of NL has the opportunity and is placed to be the most effective level of government to project this increased awareness and communication based on the land, social capital, and policy window to lead in circularity. A key theme that kept recurring within the discussion groups was the need for circularity champions or drivers within NL campaigning for the dissemination of knowledge about innovative circularity practices and adoption of circular approaches. Trust and relationship building through long term collaboration across supply chains, community engagement, traditional ecological knowledge, two-eyed seeing and concerted efforts for education, training and relevant skills development were emphasized.

Enhancing skills was identified as a crucial driver for circularity in NL especially a need for additional training in relevant post-secondary programs on circularity practices was identified including partnerships with educational institutions at various levels of learning, training and skills development.

Waste management, infrastructure and value chain constraints

Discussions revealed that one of the main limitations for adopting circular practices is the costs that may be incurred with any structural or business model changes although for many sectors the savings from transporting waste to landfills is a motivation. Key barriers identified were logistical in nature such as long transport distances required for many companies and a lack of processing facilities to encourage a localized model. The high cost of infrastructure, processes and personnel required for re-use and recycling needed for an effective circularity weighted against the convenience of products and services modularly designed for obsolescence currently makes it unviable. Another key input was waste management infrastructure that was designed for shipping downstream resources out of province, undermining any

environmental benefits and potential for job creation within the province. Current models of landfilling, incineration locally, lack of community level repair, recycle, and re-use also undermine any capacity building and transmitting craftsmanship and traditional knowledge. Circularity also involves customer perception and often lacks post-consumer value. It is therefore cheaper to discard than to upcycle at additional cost, energy and marketing without mainstream customer buy-in. Therefore, incentives from government and policy with regulations supporting circular innovations and initiatives.

Policy, governance and regulatory coordination

Focus groups were tasked with looking at the current policy and governance structures in place that manage circular economy practices in NL. Disjointed regulatory frameworks were prevalent in the province and outdated legislation hinder the potential growth and maintenance of circularity programs. Consumer mistrust, large cost barriers and infrastructure prevent any additional support from industry as well as the limitations on the right-to-repair by manufacturer restrictions introduces difficulties when trying to implement a circular economy. The need for a circular strategy customized for NL with a roadmap for all stakeholders was identified as a critical next step for promoting circular practices and reducing systemic barriers.

An EPR framework was discussed as the basis of regulations that could be implemented in NL following a similar model introduced by Alberta, British Columbia and Ontario. This framework focuses on forcing producers to meet EPR requirements either through deliberate compliant recycling plans or by joining a registered program administered by a qualified stewardship agency. Outdated licensing fees on certain products and services were a major impediment to any CE initiatives and generally introduced layers of complexity that limited innovation. A need for standardization on processes, products and fees including streamlining of permitting processes for organizations involved in the manufacture, repair, donation, assembly and disassembly processes of products was identified. Interestingly, a disconnect between those involved in promoting circular practices and those who regulate and manage policy often produced regulations at odds with the needs of industry.

Indigenous and rural communities' inclusion

The vast area and remoteness of certain parts of NL present challenges in implementing a circular economy. Large transportation costs, service delivery gaps and skepticism due to past failures and economic displacement in rural areas and indigenous communities are challenges that are sometimes greater than those in more urban parts of the province. Relationship building, consent-based planning and regular engagement with provincial regulation, knowledge transfer/training, and investment were espoused to reduce costs and improve trust. Indigenous designed circular economy frameworks already exist for some products at all stages of their life cycle and were identified as potential templates to leverage mainstream operations.

IMPLEMENTING CIRCULARITY IN RURAL NEWFOUNDLAND COMMUNITIES-A CASE STUDY

Harbour Main Community in Newfoundland has set an example of implementing a holistic rural food system. The circular lifecycle for the community food system starts with growing food in a community garden and fruit forest which is empowered with a food infrastructure established with funding from

various agencies. Fish waste, which is a waste product from another food sector, is used as a fertilizer in the community garden diverting fish waste from the landfill or dumping in the ocean effectively using it in a sustainable manner. It is supported by administrative leadership and staff, including community volunteers that provide employment and workplace training to local youth and senior residents. Circularity principles of re-use and the sharing economy are demonstrably practiced where equipment and accessories for growing food and supporting the holistic system are available through a food equipment library (Figure 3) which are loaned per use. Food that is grown is served in a pop-up community restaurant (Figure 3) that sells its produce and dishes offering healthy, local food. Organic waste is collected and composted using a large composter and pulverizing machines that were purchased through federal and provincial funding. Glass waste is also collected and repurposed using a glass pulverizer. Community members are educated in CE methods and provided hands-on training on how to grow crops, use fish waste as a direct fertilizer and supplement it with an appropriate business model that can sustain the program. All initiatives are geared towards zero waste management, greenhouse gas (GHG) emissions reduction, and most importantly economic earnings through the restaurant and sale of compost and savings from transporting waste and landfilling fees and equipment sharing. The infographic in Figure 3 highlights the holistic rural community food system addressing various UN SDGs 2 (Zero Hunger) 3 (Good Health and Well-Being), 8 (Decent Work and Economic Growth), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production) and 13 (Climate Action).

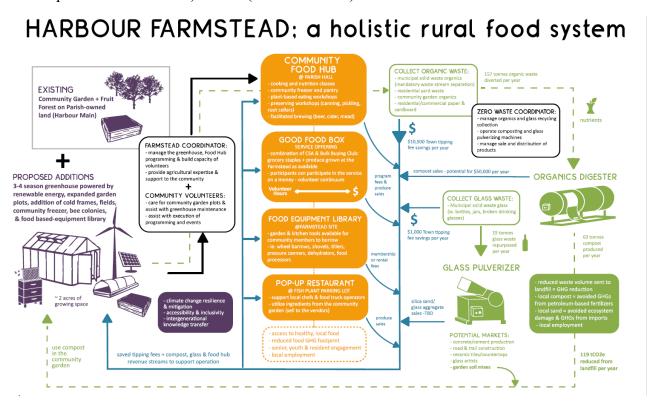


Figure 3: Infographic depicting the successful implementation of a holistic circular food system in rural NL (source: https://fundamentalinc.ca/projects/).

SIGNIFICANT TAKEAWAYS AND RECOMMENDATIONS

This workshop was organized with a specific aim to elicit actionable items that the workshop participants from members of the business, government, community and research and education sectors could recommend to overcome the barriers that they identified for implementing a successful circular and sustainable economy, customized to the unique needs of NL.

Integrated interfaces of a sustainable circular economy

The province of NL has the potential for successful circularity across various sectors of the economy, government, community, education and administration towards sustainable collaborative development. To overcome a lack of cohesive understanding of existing circular initiatives in NL will need a collaborative approach across supply chain stakeholders. Industry must be the biggest driver for CE in NL projecting profits through sustainable implementation. Building awareness and imparting training must be intentional and involve public engagement with a consultative approach of the community members. To achieve high impact (Figure 4) in a successful sustainable economy in NL an integrated approach is advised where policy must significantly direct public engagement and business innovation.



Figure 4: High impact in a sustainable economy in NL at the interface of business, community including academia and policy.

To develop inclusive community-first policies that serve the unique needs of NL that are also not at odds with business needs, will require an overseeing governing body such as a provincial circular economy council that regulates and audits implementation and adherence. A provincial policy and circularity strategy that is in alignment with federal initiatives and with other provinces across Canada is recommended. Putting NL's existing initiatives on the national stage with active influential networks such as the Circular Economy Leadership Canada in step with Generate Canada and Circular Innovation Council will help garner momentum and fill in gaps for expertise across national supply chains.

In Table 2, this report attempts to synthesize the significant actionable initiatives as recommended by the workshop participants that can be implemented in NL.

Table 2: Recommended actionable initiatives proposed by participants emerging from focus group discussions.

Discussion Topics	Significant Takeaways	Recommended Actionable Items		
Circular Economy & Industry Interface				
Circular Economy Prospects for Small and Medium Enterprises	 Small businesses need funding to support and implement business plans that address circular development. 'Greenwashing' cherry picks which process metrics appear environmentally sustainable to the public, when in fact the aim is to save the company money and is not environmentally sustainable. Many new businesses lack financial capacity to 	 Create loans/ grants for businesses specifically geared towards circular development. Develop business models that promote circularity and sustainability. Business plans should present financial sustainability and show capacity to make profit frequently. 		
Circular Economy: Business/Employment Opportunities & Growth	 expand. 1. Canada incurs a large cost to export waste for recycling, creating more jobs for other countries, which improves their GDP. 2. In NL, organic waste and garbage are not separated by households or businesses. 	 Develop processing plants that recycle waste materials, which creates job opportunities and improves Canada's GDP. A waste management and business model addressing this would create jobs. 		
	 Companies are producing waste that ends up in landfills or dumped at sea. Funding proposals are meticulous and require knowledge and persuasive writing skills. There are existing CE practices in industry that are not common knowledge to communities. 	 Develop an industry symbiosis where the waste stream from one industry is the starting material for another industry. Educate community, academia and industry members on how to write funding proposals. Advertise these practices via media to increase public awareness. 		
Workforce Training, Re-Skilling & Capacity Building	Awareness and education to build knowledge capacity, where education across all sectors creates a strong CE foundation.	1. CE programs/ workshops should be mandatory and conducted frequently in companies and government sectors. CE mentorship programs to educate entrepreneurs should be implemented. Microcredentials and certificate programs offer reskilling to transitioning employees.		

Augmenting Presence and Roles of Industries in Circular Economy

Extend Producer Responsibility & Circularity in NL

- 1. More responsibility should be placed on manufacturers to improve the quality of products sold with longer use potential and less harm to the environment. Manufacturers create substandard products to increase product turnover rate and make profit.
- 2. The cost of repairing appliances is higher than the cost of replacing them. Customers will gravitate to affordability. This takes away the consumer's right to repair.
- 3. Dumping permits are cheaper than finding solutions for the waste produced.^{4,5}

The Right to Repair: Extending Durability & Building Capacity In NL

- 1. NL's linear waste management system is evident in consumers preferring to purchase substandard appliances that are cheap, as opposed to high quality appliances that cost more.²
- 2. Consumers often place sentimental values on items purchased.

Circular Economy-Governance & Justice

Implementing Circular Systems in Remote, Rural & Indigenous Communities

- 1. Geographic isolation and long-distance transportation pose great financial challenges to remote and rural communities. High costs for logistics and repairs reduce a community's capacity to engage in circularity.
- 2. Modern circularity approaches often overshadow existing Indigenous knowledge and practices of circularity. Introducing modern circular practices while ignoring theirs could be interpreted as disregard.

- 1. Implement policies that mandate manufacturers to develop quality product designs that consider what happens to the product goes after use.
- Manufacturers should improve the quality of products sold to increase use potential and likelihood of repair.
- 3. The government should develop programs that provide a form of incentive to companies that find a sustainable means to use or dispose of their waste. Allocate grants/awards that are specific to circular performance.
- 1. Manufacturers should improve the quality of products sold to increase use potential and likelihood of repair.
- 2. Capitalize on consumer sentiment and attachment to encourage and drive repair culture.
- 1. Post smaller CE facilities (e.g. microrecycling hubs) in remote/rural communities to distribute, liaise and facilitate interaction with larger CE facilities in the cities.
- 2. Meet with Indigenous leaders to introduce and discuss collaboration for CE strategies. Subsequent education of each Indigenous community should be conducted by their Indigenous leaders and educators.

Policy and Critical Governance for Circular Systems in NL

- 1. Government policy and regulations do not reflect that of a CE, e.g. no regulation that mandates industry to ensure optimal design and manufacture of products.
- 2. There is no tool/database to monitor, measure or improve on the outcomes after implementing a CE framework.
- 3. There is a major disconnect between government, industry, academia and community. This makes it difficult to understand what each sector requires.
- 4. There is need to track Industry waste generated and waste management. Industry does not practice a healthy transparency, making it difficult to track what waste is generated and how it is managed.
- 5. There is need for a low-cost strategy with large potential payoff to get information to the masses about transitioning to a circular economy, which would meet the current information gap present in society.
- 6. Tracking industry waste requires registration of all businesses. There are many unregistered sole proprietorships operating in NL, especially in remote/rural communities.

- Local Innovation for Circular Economy in NL Public/Community Engagement
- 1. Community engagement provides first-hand experience and hands-on learning for community members. This creates a robust CE knowledge base as well as foster local innovation.
- 2. A space for CE real-time learning is required for each municipality/city.

- 1. Implement federal policies and regulations that clearly stipulate how government, industry and community should operate individually and in collaboration to promote a CE. Attaching hefty consequences to these policies would ensure compliance.
- 2. Invest in and collaborate with STEM programs, start-ups or existing companies, to develop a federally operated database to monitor and measure CE performance of companies.
- 3. Establish a provincial circular economy council (CEC) that ensures a cohesive CE policy structure and road map that would reduce policy fragmentation and streamline circularity initiatives.
- 4. Develop a provincial audit to monitor and measure CE performance of companies. Align with other national and agency CE strategies.
- 5. Create a province-wide database to provide stakeholders with general information on the circular economy, contact information of key personnel, such as academics, NGOs, business interests, etc., as well as various circular economy solution providers.¹⁰
- 6. Registering sole proprietorships should be mandatory.
- 1. Lobby for CE model strategies through community workshops.
- 2. Establish physical community circular hubs that offer community recycling, learning and innovative projects.

CONCLUSIONS

Newfoundland and Labrador stands at a pivotal juncture in its journey toward a sustainable and inclusive circular economy. The focus group discussions underscored a shared urgency for coordinated action across awareness, infrastructure, and governance. Participants emphasized that while systemic transformation will take time, several low-cost, high-impact initiatives can immediately advance circularity in the province.

Foremost among these is the need for an awareness and communication strategy to demystify circular economy principles and make them accessible to local businesses, NGOs, and communities. Establishing a province-wide circular economy database- linking stakeholders such as academics, NGOs, businesses, solution providers, and policymakers- was identified as a practical first step. This open-access platform would address the current information gap, encourage collaboration, and showcase circular practices already underway in the province. Complementary to this, targeted education, training, and microcredential programs should be developed in partnership with post-secondary institutions and entrepreneurship networks to equip workers and business leaders with circular skills.

From an infrastructure standpoint, participants recognized the limitations faced by smaller or remote communities in building new facilities. Instead of large-scale capital projects, adaptive reuse of existing community centers as micro-recycling and repair hubs was proposed. These local hubs could provide assessment, repair, donation, and waste-sorting services while cutting transportation costs and emissions. For communities with limited infrastructure, mobile or containerized repair units were discussed as cost-effective alternatives that expand participation without fixed overheads. These approaches would not only improve waste management and resource recovery but also create jobs, stimulate entrepreneurship, and build community ownership of circular practices.

To sustain these localized efforts, participants called for a provincial circular economy policy and governance framework that aligns economic development, environmental management, and social equity goals. This framework should define roles, responsibilities, and enforcement mechanisms, particularly through an Extended Producer Responsibility (EPR) system that ensures durable, repairable, and recyclable product designs. Regular inter-agency working groups could support policy coherence, prevent regulatory fragmentation, and ensure that incentives reflect both business realities and community priorities.

Ultimately, NL's circular transition depends on shared leadership. Provincial coordination, municipal and NGO engagement, and private-sector participation must converge to build trust, pool resources, and deliver context-specific solutions. By combining inclusive governance with pragmatic investment in education and infrastructure, Newfoundland and Labrador can transform its challenges into a model for locally driven, nationally recognized circular innovation.

REFERENCES

- 1. Atabaki, Y., Dao, U., Shetranjiwalla-Merchant, S., Pujari, A., John, A., Fairbridge, N., Sarkar, A. (2025, April 24). *Circular Economy in the Context of NL: Sharing Community-Based Learning*. [Workshop Presentation]. Pathways to Sustainability: Enabling and Inclusive Circular Economy for Newfoundland and Labrador, 2025 Workshop, Emera Innovation Exchange, St. John's, Canada.
- 2. Shetranjiwalla-Merchant, S. (2025, April 24). What is Circular Economy? From Linear to Circular; A Paradigm Shift. [Workshop Presentation]. Pathways to Sustainability: Enabling and Inclusive Circular Economy for Newfoundland and Labrador, 2025 Workshop, Emera Innovation Exchange, St. John's, Canada.
- 3. Statistics Canada. Table 38-10-0032-01. Disposal of waste, by source. DOI: https://doi.org/10.25318/3810003201-eng and Sustainable Development Goals Canadian Indicator Framework. United Nations Sustainable Development Goals Indicator 11.6.1 https://sdgcif-data-canada-oddcic-donnee.github.io/11-6-1/.
- 4. (a) Statistical Information of Newfoundland and Labrador 2025, https://www.stats.gov.nl.ca/Statistics/. (b) GoNL. Number of Businesses in Newfoundland and Labrador in Rural Secretariat Region December 2023, https://www.stats.gov.nl.ca/Statistics/Topics/trade/PDF/BR_RSR_2023.pdf (c) GoNL. https://www.stats.go
 - https://www.stats.gov.nl.ca/Statistics/Topics/labour/PDF/Employment Industry Monthly.pdf
- 5. Pujari, A., Hill, S., Sanchez Martinez, A., Parekh, D. (2025, April.24). *Circular Economy and Public Policies: Learning from Canadian Provinces*. [Workshop Presentation]. Pathways to Sustainability: Enabling and Inclusive Circular Economy for Newfoundland and Labrador, 2025 Workshop, Emera Innovation Exchange, St. John's, Canada.
- 6. Government of Canada. *Disposal at Sea Legislations and Regulations*. (Accessed June 27, 2025). From: https://www.canada.ca/en/environment-climate-change/services/disposal-at-sea/legislation-regulations.html.
- 7. Government of Canada. *Upcycling Seafood Wase*. (September 11, 2024). (Accessed August 11, 2025). From: https://nrc.canada.ca/en/stories/upcycling-seafood-waste
- 8. Mediator Notes. (April 24, 2025). [Video MP4 File].
- 9. Fairbridge, N. (2025, April 24). *Mainstreaming Circular Economy in Rural NL Communities*. [Workshop Presentation]. Pathways to Sustainability: Enabling and Inclusive Circular Economy for Newfoundland and Labrador, 2025 Workshop, Emera Innovation Exchange, St. John's, Canada.
- 10. Pujari, A. (2019). Factors That Influence Sustainable Product Innovation in The CPG Industry. [Discussion Paper]. Eighth Annual Leaders in Sustainable Thinking (LIST).
- 11. Product Care Recycling. *Paint Recycling Newfoundland and Labrador*. (Accessed September 24, 2025). From: https://www.productcare.org/products/paint/newfoundland/
- 12. Dao, U. (2025). Pathways to Sustainability: Enabling an Inclusive Circular Economy for Newfoundland and Labrador Report.

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UPCOMING WORKSHOP

PATHWAYS TO SUSTAINABILITY:

ENABLING AN INCLUSIVE CIRCULAR ECONOMY FOR Newfoundland & Labrador

Join us for a multi-stakeholder workshop, to explore challenges and opportunities related to developing circular economy strategies in NL

- Share the latest research on barriers and challenges to implementing a circular economy, including perspectives from Indigenous communities.
- Engage with governance, community & industry stakeholders to identify solutions for addressing waste in NL
- Collaborate toward a framework for a circular economy in NL

THURSDAY **APRIL 24, 2025** 9:00 am - 4:30 pm (NST)

Emera Innovation Exchange, Memorial University, Signal Hill Campus, 100 Signal Hill Rd, St. John's

Workshop presented as part of a collaboration with:

- Dr. Atanu Sarkar
 Professor, Faculty of Medicine,
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- Dr. Uyen Dao
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For more information or to register, please contact: DR. UYEN DAO AT UTDAO@MUN.CA



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Pathways to Sustainability: Enabling an Inclusive Circular Economy for Newfoundland & Labrador Thursday, April 24th, 2025 Emera Innovation Exchange, 100 Signal Hill Rd, St. John's





9:00-9:15 am	 Welcome and inauguration of workshop Prof. Atanu Sarkar, Faculty of Medicine, MUN
9:15-9:40 am	What is Circular Economy? From Linear to Circular, A Paradigm Shift Dr. Shegufa Shetranjiwalla-Merchant, Grenfell Campus, MUN
9:40-10:10 am	Mainstreaming Circular Economy in Rural NL Communities Dr. Nicholas Fairbridge, Town of Harbour Main, NL.
10:10-10:25am	Tea break
10:25-10:50 am	Circular Economy in the context of NL: Sharing community-based learning Prof. Atanu Sarkar, Faculty of Medicine, MUN
10:50-11:15 am	Role of Public Policy in Promoting Circular Economy: Learning from Selected Canadian Provinces Prof. Ashish Pujari, DeGroote School of Business, McMaster University
11:15-11:30 am	O Networking Break
11:30-12:30 pm	Focused Group Discussion 1: CE and industry interface
	 -Circular Economy Prospects for Small and Medium Enterprises
	 -Circular Economy: Business / Employment Opportunities & Growth
	- Workforce Training, Re-skilling & Capacity Building
12:30-1:30 pm	Lunch
1:30-2:30 pm	Focused Group Discussion 2: Augmenting presence and roles of industries in CE
	 -Scaling up Waste Management Systems in NL
	 - Extended Producer Responsibility & Circularity in NL
	 -The Right to Repair: Extending Durability and Building Capacity in NL
2:30-2:45 pm	Tea break
2:45-3:45 pm	Focused Group Discussion 3: CE – governance and justice
	 Implementing Circular Systems in Remote and Rural & Indigenous Communities
	 - Policy & Critical Governance for Circular Systems in NL
	 - Local Innovation for CE in NL
3:45- 4:00 pm	Networking Break
4:00 -4:15 pm	Sustainable Pathways: Ways Forward Dr. Shegufa Shetranjiwalla-Merchant
4:15- 4:30 pm	Vote of Thanks Dr. Uyen Dao